

In the modification of FIGURE 7, alternate left and right ramps 60 are provided on the inner faces of the sides 56 so as to define a zigzag trackway 62. Thus in reaching each corner 54, the ball tends to stop in that corner due to the fact that it would be forced to zigzag in effort to reach the subsequent corner prematurely.

On the face of the dial 20 of FIGURE 8, we provide an inner circle 64 of markings giving a scale reading of fifty inches of rainfall. The reduction gearing 18 driven by the shaft 16 turns a hollow outer shaft, not shown, on which a short hand 66 is fixed and the ratio provides a full revolution of the hand 66 corresponding to each fifty inches of rainfall.

An outer circle 68 on the dial is marked in hundredths of an inch of rainfall and a shaft 72 driven by the gearing 18 moves a fine hand 70 through a complete revolution for each 1.00 inch of rainfall measured.

The shaft 72 carries another hand 74 having a light frictional fit thereon so that the hand 74 can be reset after each rainfall if the user desires. A third hand 76 on this common shaft 72 likewise has a light frictional fit and it can be reset to zero, for example, at the end of every month or at the end of any other period under particular observation.

In one physically constructed embodiment of the invention, the ball 52 was a steel ball and the entire rotor 34 and box with the square sides 56 were plastic. The weights, volumes, and gear ratios selected produced results correlated as follows:

Rainfall	Ball 52	Hand 70
$\frac{1}{2}$ " rain	10 clicks	$2\frac{1}{2}$ revolutions

A moderate rainfall accumulates to the above one-half inch amount sometimes in an hour's time and in this period the ball 52 audibly moves from one corner to the next, making a total of ten audible clicks; in other words, each time the ball clicks into the next corner, the rainfall has accumulated by another 0.05 inch.

If a dial 20 is used of a type which requires more greatly multiplied movement of the hands, the increase of movement of the hands, the increase of movement can be

readily accomplished by enlarging the rain cup 22, by reducing the weight of the ball 52, by reducing the size of the sides 56 of the box, or by reducing the ratio of the reduction gearing 18. To do oppositely results in making the gage 10 less sensitive, which can be desirable in some cases.

It is noted that each time the ball 52 transfers to the next corner 54, the trapped fluid is all or substantially all emptied and so freezing damage is no particular problem with this continuously emptying gage device. The device is found to be a real convenience inasmuch as the user merely stays within the room of the building and reads the dial 20 on the wall. No attention is required for emptying the gage; the reading per rainfall and the reading per month, for example, are accurately retained by the hands 74 and 76 with no requirement that water keep accumulating in volume in the gage. Total readings are, of course, evident from the fine reading hand 70 and from the short hand 66 which reads in large quantities.

Variations within the spirit and scope of the invention described are equally comprehended by the foregoing description.

What is claimed is:

A rain gage comprising, in combination; a rotor having a horizontal axis of rotation; there being a set of circumferentially spaced apart, outwardly open pockets which are provided about said rotor, and the volumetric center of which when each is in an upwardly extending position being eccentric to the axis of rotation of said rotor; an equiangular box secured to the rotor in symmetrical disposition about said axis; a captive ball in the box adapted to roll, under gravity, from corner to corner as the rotor pockets fill with liquid; internal obstacles in said box in the path of the ball to limit its rolling velocity to movement such that it transfers from one corner no farther than the next corner and stops; and an indicator device driven by the rotor and having indicator hands and a dial providing readings in terms of cumulative rainfall.

References Cited in the file of this patent

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